PTSD, MALEVOLENT ENVIRONMENT, AND CRIMINALITY AMONG CRIMINALLY INVOLVED MALE ADOLESCENTS

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Post-traumatic stress disorder (PTSD) is a chronic and impairing disorder that is pervasive but often overlooked in the assessment and treatment of adolescents involved in the juvenile justice system. The present study examined the occurrence of malevolent environment factors (e.g., poverty, hunger), substance use, trauma exposure, and PTSD among 51 male adolescent offenders recruited from juvenile treatment facilities representing the highest level of security in Massachusetts. Participants completed self-report instruments and semistructured interviews. Much of the information gathered was verified with records kept by the Department of Youth Services. The results of the current study suggest that among male adolescent offenders, exposure to malevolent environmental factors and traumatic life events is common and rates of PTSD are high. We conclude that PTSD and lifetime exposure to potentially traumatic events should be assessed routinely in rehabilitative settings.

Some juvenile treatment facilities address problems linked to perpetration such as substance abuse, conduct disorder (e.g., anger management, development of prosocial skills, and empathy), and relapse prevention. Although these programs have demonstrated short-term effectiveness, the long-term impact of these rehabilitative programs has not been demonstrated (e.g., Tate, Reppucci, & Mulvey, 1995). We propose that addressing the psychological consequences of exposure to violence, post-traumatic stress disorder (PTSD) in particular, would enhance the long-term effectiveness of juvenile offender treatment programs. The current article describes the rationale for integrating assessment and treatment of PTSD into treatment and presents evidence from a collaborative study conducted by the National Center for PTSD Behavioral Sciences Division and the Massachusetts Department of Youth Services to support this recommendation.

PTSD is a stress reaction characterized by symptoms of re-experiencing, avoidance and emotional numbing, and hyperarousal following exposure to an extreme traumatic stressor. According to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994), traumatic stressors are events in which "the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others' (p. 427), and "the person's response involved intense fear, helplessness, or horror" (p. 428) (Criterion A). Potentially traumatic events are those events meeting the aforementioned criteria but not engendering fear, helplessness, or horror. To meet criteria for the disorder, the person must meet Criterion A and have one re-experiencing symptom (Criterion B), three avoidance or numbing symptoms (Criterion C), and two arousal symptoms (Criterion D). The symptoms of PTSD must endure for more than 1 month (Criterion E) and must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (Criterion F).

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Emerging research supports the hypothesis that PTSD is a relevant mental health problem for adolescents who are involved in the juvenile justice system. First, research has documented that adolescents who exhibit delinquent behavior are likely to have experienced maltreatment (Ford & Linney, 1995; Haapasalo & Kankkonen, 1997; Lutz & Widom, 1994; Malinosky-Rummell & Hansen, 1993; Rivera & Widom, 1990; Smith & Thornberry, 1995; Widom, 1989), which places them at greater risk for PTSD and substance abuse (Burton, Foy, Bwanausi, Johnson, & Moore, 1994; Harrison, Fulkerson, & Beebe, 1997). Second, children with histories of dealing illicit drugs (Weissman, 1993) or living in chronically violent communities (Fitzpatrick & Boldizar, 1993) are likely to have witnessed violence and be at risk for PTSD. Third, because most juvenile offenders are diagnosed with conduct disorder, which is often concurrent with PTSD (Burket & Myers, 1995; Clark et al., 1997; Clark, Smith, Neighbors, Skerlec, & Randall, 1994), it is likely that PTSD occurs at high rates among these youth. Finally, a recent study of rates of PTSD among juvenile offenders reported that 24% met *DSM-III-R* criteria (American Psychiatric Association, 1987) for PTSD on a self-report measure (Burton et al., 1994). Similarly, Steiner, Garcia, and Matthews (1997) found that 32% of incarcerated youth fulfilled the *DSM-III-R* criteria for PTSD on a semistructured interview and another 20% endorsed many PTSD symptoms. These rates are more than 16 times greater than those reported for adolescent community samples (Cuffe et al., 1998).

The need to address PTSD is often overlooked in the assessment and treatment of adolescent offenders (McMackin, Morrissey, Newman, Erwin, & Daly, 1998). This may be a result of the fact that many criminal justice experts are not trained in the assessment and treatment of PTSD, and that the study of PTSD has historically concentrated more on crime victims than perpetrators. This oversight may account for the lack of documented efficacy of rehabilitative programs. For example, the intrusions, reenactments, anger outbursts, and hyperarousal associated with PTSD may be linked directly to juvenile offenders' affect and impulse dysregulation, which results in criminal behavior. Symptoms of avoidance and emotional numbing may impact

issues related to thinking about perpetration and accepting responsibility for crimes. In fact, behavioral problems typically associated with antisocial behavioral patterns may be accounted for in part by PTSD symptoms (e.g., sleep disturbance, intrusions). Addressing PTSD may also increase educational and occupational potential, enhance quality of life, and reduce the risk of concomitant comorbid diagnoses because adolescents with PTSD following abuse are at greater risk for educational, interpersonal, and psychological impairment (Brown, Kessel, Lourie, Ford, & Lipsitt, 1997; Silverman, Reinherz, & Giaconia, 1996; Warner & Weist, 1996). For example, PTSD among adolescents is associated with increased suicidal and homicidal ideation (Brent et al., 1995; Schiff & Cavaiola, 1993; Silverman et al., 1996), IQ deficits (e.g., Saigh, Mroueh, & Bremner, 1997), and substance abuse (Burket & Myers, 1995; Clark et al., 1994; Clark et al., 1997; Hernandez, 1992; Wittchen, Nelson, & Lachner, 1998).

The current study examined trauma exposure and PTSD among male criminal youth. The research design improved upon previous work by focusing on the most recent definitions of PTSD (i.e., *DSM-IV* diagnostic criteria), assessing lifetime exposure to a wide range of stressful life events, using a psychometrically sound interview for PTSD, and employing multimodal assessment (i.e., self-report instruments, criminal records, and clinical interviews). This article will describe exposure to trauma and adversity and rates of PTSD among incarcerated male youth. Exposure to potentially traumatic life events will be contrasted with exposure to traumatic events. Recall that the report of fear, helplessness, or horror distinguishes traumatic events from potentially traumatic life events and that a diagnosis of PTSD is considered only for traumatic events. This comparison will therefore identify the degree to which these youth report experiencing fear, helplessness, or horror, and distinguish events that are most likely to contribute to PTSD. It is predicted that rates of exposure to violence and maltreatment will be high and that PTSD will be prevalent among these youth. Differences between self-report and interview data also will be examined to help criminal justice experts determine the most effective ways of assessing PTSD. The article concludes with recommendations regarding assessment of PTSD.

METHOD

PARTICIPANTS

Participants were recruited from those serving, scheduled to serve, and completing sentences at seven secure juvenile treatment facilities within 90 miles of Boston. Distinct from detention centers, secure treatment facilities represent the highest level of security in Massachusetts and are generally reserved for the most serious adolescent offenders. The facilities from which the sample was drawn were selected based on proximity to Boston, familiarity of the authors with the sites, and the resources available to the facilities. For example, it was necessary that facility staff members be available to potential participants to administer the initial consent form and that the facilities provide audiovisual equipment so that the sessions could be taped.

Directors of the facilities advertised the study to the adolescents, and interested persons were contacted. Directors of the secure treatment facilities and potential participants were told that the purpose of the study was to understand more about the daily and nondaily events of children who become involved in the juvenile justice system. They were told that the study sought to determine whether certain events have long-term effects on children. Potential participants were also informed that some of the content of the interview could be upsetting and that they were free to stop at any time. Potential participants were informed that participation was voluntary and were not offered perquisites for their participation.

For participants older than the age of 18, written consent to participate in the study and to the audiotaping of the sessions was obtained directly from the participant; for those younger than the age of 18, written consent was first obtained from a legal guardian followed by written assent, which was obtained from the adolescent. Persons older than the age of 18 were more likely to be recruited into the study than were those younger than the age of 18 because obtaining legal consent did not involve obtaining permission from a legal guardian. Among persons younger than the age of 18, those whose legal guardians visited the facility, spoke English, and had telephones available to them were more likely to be recruited into the study because such characteristics made obtaining consent easier. Mailing letters and consent forms directly to legal guardians produced low response rates. All persons in custody of the Department of Social Services (DSS) were excluded from the study because of the difficulty in obtaining legal informed consent.

PROCEDURE

All participants were administered a battery of self-report instruments and semistructured interviews designed to assess demographics, family background, malevolent environment factors (e.g., poverty, hunger), substance use, trauma exposure, and the presence of PTSD. When available, standardized measures of PTSD were included. The self-report instruments were administered to the adolescents prior to the interview session as a means of allowing a mechanism for the clinician to help the youth process any reactions to research participation. Much of the information gathered was verified with records kept by the Department of Youth Services (DYS).

As part of debriefing, participants were asked if they felt that the informed consent procedures explained the nature of participation fairly and if they felt coerced to participate. All participants verbally reported that informed consent procedures were adequate and that they did not experience coercion.

MATERIALS

Although the development of standardized, reliable, and valid instruments to measure the effects of trauma exposure among adults has been quite successful (e.g., Newman, Kaloupek, & Keane, 1996; Solomon, Keane, Newman, & Kaloupek, 1996), the development of such instruments for children has lagged behind (e.g., McNally, 1991; Putnam, 1996). There are no assessment instruments that have been psychometrically validated with delinquent youth (Newman, 1999) Several reliable measures have been developed to determine PTSD diagnoses in children and adolescents (e.g., Frederick, Pynoos, & Nader, 1992; Reich, Shayka, & Taibleson, 1991; Shaffer, Fisher, Piacentini, Schwab-Stone, & Wicks, 1992); however there are no psychometrically validated instruments for the assessment of PTSD in children and adolescents that produce both a symptom severity rating

(to assess change in symptom severity over time) and a *DSM-IV* PTSD diagnosis. This has greatly hampered advancement in the field because the lack of consistent measures of PTSD across studies (method variance) obscures genuine observed differences. In the current investigation, instruments that appeared to be the most clinically appropriate and have some potential for strong psychometrics were selected.

Exposure to Community Violence Scale–Adapted Version (Richters, 1990). The Exposure to Community Violence Scale is a 33-item self-report instrument adapted for the purposes of this study. Respondents were asked to rate the number of times that they were exposed to each potentially traumatic event on a 5-point Likert-type scale (0 = *none* to 4 = *more than 10 times*). Respondents were also given the opportunity to indicate that they did not know whether they were exposed to a potentially traumatic event. Items regarding sexual abuse were added, such as "Has someone ever touched you or kissed you in a way that made you feel uncomfortable?" and "Has someone ever made you do something with your private parts or with their private parts that you did not want to do?"[1] In the current investigation, the alpha coefficient for this adapted measure was .91, indicating excellent consistency.

PTSD Checklist (Amaya-Jackson, McCarthy, Newman, & Cherney, 1995). The PTSD Checklist is a self-report scale that instructed participants to record, by way of free response, up to three potentially traumatic events and then to rate the degree to which each of the 17 symptoms of PTSD was present during the past month. Twenty-eight items were rated on a 4-point Likert-type scale from 0 (*not at all*) to 3 (*all of the time*). Diagnoses of PTSD by self-report were obtained from this measure by comparing the number of symptoms endorsed with *DSM-IV* criteria for PTSD (i.e., one B symptom, three C symptoms, two D symptoms). Diagnoses derived from all three possible symptom thresholds (i.e., the presence of symptoms some of the time, most of the time, and all of the time) were compared with diagnoses of PTSD by semistructured interview. A *t* test of difference between means was calculated to determine whether differences in severity ratings existed between those with and without diagnoses of PTSD.

The PTSD Checklist is one of the few instruments that yield both a continuous symptom severity score and a *DSM-IV* diagnosis of PTSD. Although no studies have evaluated the reliability and validity of the PTSD Checklist, there are data to suggest that there is high convergent validity between this test and the PTSD module of the schedule for affective disorders and schizophrenia for school aged children (Kiddie Sads–present and lifetime; K-SADS-PL) in adolescent samples (personal communication, D. Lipschitz, May 14, 1997). Furthermore, in the current investigation, the alpha coefficient for all items on the scale was .91, which indicates excellent agreement. The alpha coefficients for items contributing to the calculation of Criteria B, C, and D were .84, .77, and .82, respectively, all of which indicate good agreement.

Clinician Administered PTSD Scale for Children and Adolescents (CAPS-CA) (Nader et al., in press). The CAPS-CA is a semistructured interview that provides a means to evaluate the following: (a) self-report of exposure to potential Criterion A events; (b) frequency and intensity of each PTSD symptom and associated feature; (c) the impact of the 17 PTSD symptoms on developmental, social, and scholastic functioning; (d) current and lifetime diagnosis of PTSD; and (e) the overall severity of PTSD (Newman & Ribbe, 1996). The CAPS-CA consists of standardized prompt questions; supplementary follow-up (probe) questions; and behaviorally anchored 5-point rating scales, which correspond to the frequency and intensity of each symptom assessed. Additional features enhancing the utility of this instrument with children include the following: (a) iconic representations of positive symptoms, (b) opportunities to practice the questioning format, and (c) a standard procedure for identification of the critical 1-month time frame for current symptoms.

The CAPS-CA was developed by authors of the most widely used standardized child PTSD interview, the Posttraumatic Stress Disorder Reaction Index (CPTSD-RI) (Frederick et al., 1992), and authors of the most widely used adult structured PTSD interview, the Clinician-Administered PTSD Scale (CAPS) (Blake et al., 1994; Weathers & Litz, 1994). The CAPS-CA is conceptually and methodologically linked to the CAPS, which has well-established psychometric properties (Weathers & Litz, 1994; Weathers, Ruscio, & Keane, 1999) but

differs by its use of developmentally appropriate language and ratings. Thus, both the CAPS-CA and the CAPS may be used in longitudinal analyses that span both childhood and adulthood. Although still under psychometric testing, both the *DSM-III-R* and *DSM-IV* CAPS-CA versions are widely used in outcome and assessment studies (March, Amaya-Jackson, Murray, & Schulte, 1998; Stallard, Velleman, & Baldwin, 1998).

In the current investigation, the first author of the CAPS-CA manual, Newman (Newman et al., in press), trained all interviewers. A full-day workshop was conducted, during which all interviewers observed Newman conduct interviews and were observed by her as they practiced administering the interviews.

Although every effort was made to audiotape interviews so that adequate reliability analyses could be conducted, logistic and technical difficulties resulted in the fact that audiotapes were seldom obtained. Reliability of the 9.8% of the interviews that were audiotaped and recoded by another interviewer was estimated by a kappa coefficient of .80, indicating good agreement. Participants' data provided by the CAPS-CA were also used to estimate the internal consistency of the intensity ratings on the three CAPS-CA subscales. For re-experiencing, numbing and avoidance, and arousal, the alphas were .81, .75, and .79, respectively, indicating substantial homogeneity among the items on the CAPS-CA subscales. Finally, the data were used to estimate concurrent validity. The mean intensity rating across the 17 diagnostic items on the CAPS-CA was significantly related with the mean total score of the PTSD Checklist ($r = .64$), indicating that the CAPS-CA has a moderate relationship with a nonvalidated self-report measure of PTSD.

To determine whether differences in severity ratings existed between those with and without diagnoses of PTSD, a *t* test of difference between means was calculated.

The DYS Assessment Interview. The DYS Assessment Interview is a semistructured interview developed by McMackin for the current study to obtain information systematically on demographics, medical and psychiatric history, interpersonal relationships, criminal history, family background, substance use, trauma exposure, malevolent environmental factors (e.g., poverty, hunger), and goals. Newman and McMackin conducted the training on this instrument: All interviewers observed both authors administer the interview and were then provided feedback after being observed conducting the interview.

RESULTS

SAMPLE CHARACTERISTICS

Fifty-one male adolescents were included in the present investigation from the seven secure juvenile treatment facilities; the relatively small sample was due to the inherent difficulty in obtaining informed consent and to the time commitment involved in conducting the interviews. It was not possible to estimate the average length of stay at the facilities of the participants in this sample. Although sentences are determined in advance of commitment by the nature of the offense, the actual time served may be influenced by any record of prior offenses and behavior while in custody. Nonetheless, according to the Massachusetts Department of Youth Services, sentences assigned to adolescents in secure treatment facilities range from 5 to 36 months. Unless otherwise indicated, all information was obtained during the clinician-administered interview and, when possible, corroborated through comparison with DYS records. No major discrepancies between the interview and DYS records existed. Of the youth in this sample, 57% ($n = 29$) were Caucasian, 28% ($n = 14$) were African American, and 12% ($n = 6$) were Hispanic. Eighty percent ($n = 41$) of the participants were never married. The mean age of the participants was 17.5 years ($SD = 1.5$), and participants were operating at a mean grade of 8.7 ($SD = 1.3$). Because the current sample was drawn from a juvenile detention center, it might be expected that a majority were children or adolescents, however 41% ($n = 21$) of the individuals were older than the age of 18. Twenty-six percent ($n = 13$) reported having been diagnosed with attention deficit disorder at a mean age of 11.2 years ($SD = 3.2$). The mean age of their first DYS commitment was 14.3 years ($SD = 1.5$).

The majority of these youth ($n = 36$, 71%) had long histories of disciplinary problems and criminal behavior. For example, the mean age of onset of disciplinary problems was 10.7 years ($SD = 2.8$); the mean age of the first arrest was 12.8 years ($SD = 1.9$). The most common offenses for which these youth were placed with DYS were property offenses ($n = 14$, 28%), sexual assault ($n = 10$, 20%), and physical assault or murder ($n = 22$, 45%). DYS records indicated that most (69%) had a legal record involving at least one offense against another person (e.g., murder, assault, rape). Also, according to DYS records, the most serious offenses committed included murder or manslaughter ($n = 7$, 14%), assault with a weapon ($n = 14$, 28%), sexual assault ($n = 10$, 20%), and robbery or receiving stolen property ($n = 7$, 14%). Nearly half of the sample ($n = 25$, 49%) reported gang involvement, which began at an average age of 11.4 years ($SD = 3.2$). Well over half of the sample reported having owned a weapon ($n = 44$, 86%), particularly a gun or knife ($n = 28$, 55%). More than half of the sample had used psychoactive substances daily before incarceration. For example, 73% of the participants reported using alcohol a mean of 11.3 days per month ($SD = 9.8$), 75% reported using cannabis a mean of 18.7 days per month ($SD = 11.5$), and 71% reported smoking a mean of 17.8 cigarettes per day ($SD = 12.4$).

Among the areas of life affected by the delinquent behavior of these youth, interpersonal relationships suffered. The youth in this sample reported engaging in a mean of 5.3 ($SD = 7.7$) fights per month prior to their commitment to DYS. Forty-seven percent ($n = 24$) reported having hit a family member, 12% ($n = 6$) reported having hit an intimate partner, and 22% ($n = 11$) reported having hit a female other than an intimate partner.

EXPOSURE TO MALEVOLENT ENVIRONMENTAL FACTORS

A recent study of Vietnam War veterans using structural equation modeling demonstrated that enduring malevolent environmental factors (e.g., sleep deprivation, lack of military support) predicts PTSD status (King, King, Gudanowski, & Vreven, 1995). Therefore, we expected that malevolent environmental factors in the lives of incarcerated youth would be associated with PTSD. Malevolent environmental factors were defined as experiences of ongoing adversity such as family disruptions (e.g., domestic violence, extreme and prolonged verbal abuse, single-parent households, DSS placements, receiving welfare or public housing, substance abuse, and criminal involvement among family members) and exposure to unsafe neighborhood and school environments.

As expected, a majority of adolescents in the present sample reported repeated exposure to malevolent environmental factors, particularly those involving exposure to unsafe situations. For example, on self-report measures, 92% ($n = 47$) reported feeling unsafe in all environments. Not surprisingly, 100% of the sample reported having witnessed arrests and others' criminal behavior, specifically drug deals, fights, robberies, shootings, and stabbings. Most reported having heard gunshots ($n = 47$, 92%) and receiving threats of murder ($n = 37$, 73%). Interview data also reflect the perceived lack of safety of the environments in which these youth lived. Thirty-nine percent ($n = 20$) felt the need to carry a weapon in their school and 61% ($n = 31$) felt compelled to carry a weapon in their neighborhood. Some of the lack of safety to which these youth were exposed was associated with contact with family members. For example, 35% ($n = 18$) received extreme verbal abuse (operationalized as more than 10 times per month for at least 3 to 5 years), 35% ($n = 18$) were exposed to family members who had histories of substance use, and 61% ($n = 31$) were exposed to family members who had been criminally involved.

Other malevolent environmental factors reported by the youth in this sample included living in public housing ($n = 22$, 43%), receiving public assistance ($n = 37$; 73%) for a mean of 6.7 ($SD = 5.2$) years, and receiving DSS placements ($n = 24$, 47%) at a mean age of 9.8 years ($SD = 4.5$). Notably, among possible malevolent environmental factors, profound poverty was not prevalent. Only 6% ($n = 3$) of the sample reported ever being homeless; 10% ($n = 5$) reported experiencing periods of hunger. Furthermore, the youth in this sample reported having a relatively large number of close friends ($M = 6.5$, $SD = 14.2$) and a reasonable amount of contact with their biological parents. Forty-one percent ($n = 21$) lived only with their mother and 88% ($n = 45$) had daily contact with their biological mother. Similarly, 37% ($n = 19$) were raised by both their mother and father and 39% ($n = 20$) had daily contact with their biological father.

HISTORY OF POTENTIALLY TRAUMATIC EVENTS

As expected, rates of exposure to potentially traumatic events were high among this sample of incarcerated youth (see Table 1). Incidents involving community violence accounted for the highest rates of potentially traumatic events. During the interview, more than half of the sample reported witnessing severe violence at home, witnessing homicide outside the home, being a victim of violence, fearing for their lives, or later realizing that their lives were threatened. Between 30% and 50% of the sample reported witnessing physical assault or death at home, or experiencing serious accidents, domestic violence, or statutory rape. Potentially traumatic events reported at frequencies lower than 30% include experiencing kidnapping, sexual assault either at home or outside the home, natural disaster, or physical assault outside the home; or witnessing sexual assault either at home or outside the home.

Endorsements of exposure to potentially traumatic events were collected by way of both interview and self-report. This sample reported similar rates of exposure to potentially traumatic events by self-report and interview. However, for events involving witnessing a homicide, rates reported during the interview were more than 2½ times those reported by self-report. For events involving witnessing sexual assault outside the home, rates reported by self-report were more than 6 times those reported during the interview.

As previously discussed, exposure to potentially traumatic events may or may not be distressing to an individual. According to the *DSM-IV* nomenclature, subjective distress that meets the Criterion A requirement of a qualifying trauma for PTSD diagnosis requires fear, helplessness, or horror. Table 1 summarizes the percentages of the participants who reported potentially traumatic events and the percentages whose potentially traumatic events met the Criterion A definition of a traumatic event. Many events experienced by the incarcerated youth in this sample engendered fear, helplessness, or horror. Specifically, more than half of those who reported witnessing family sexual assault, experiencing a serious accident, domestic violence, physical assault, nonfamily sexual assault, kidnapping, or natural disaster, or witnessing or being threatened with death also reported experiencing concomitant fear, helplessness, or horror. Notably, a very small percentage of those who reported witnessing sexual assault outside the home or experiencing sexual assault in the home or statutory rape also reported experiencing fear, helplessness, or horror. On the contrary, many spoke positively of sexual experiences with adult women.

TABLE 1: Potentially Traumatic Events and Criterion A Events

	Interview					*Self-Report*	
	Reported Event		*Reporters Meeting Criterion A*		*Sample Meeting Criterion A*	*Reported Event*	
	n	%	n	%	%	n	%
Witnessed event							
Homicide	42	82	21	50	41	16	31
Seen someone die	18	35	13	72	26	15	29
Physical assault with a gun						38	75
Physical assault at home	19	37	9	47	18	16	31
Family domestic violence	28	55				25	49
Family sexual assault	2	4	2	100	4		
Nonfamily sexual assault	3	6	1	33	2	19	37
Experienced event							
Threatened with being shot/stabbed						41	80
Shot or stabbed						23	45
Family physical assault	23	45	16	70	31		
Nonfamily physical assault	8	16	6	75	12		
Kidnapped/held against will	1	2	1	100	2		
Serious accident	23	45	16	70	31		
Statutory rape	21	41	4	19	8		
Family sexual assault	7	14	2	29	4		
Nonfamily sexual assault	12	24	11	92	22	12	24
Natural disaster	13	26	10	77	20		
Experienced reaction							
Later realized life was threatened	30	59	24	80	47		
Fear of dying	28	55	21	75	41		

PTSD RATES

Table 2 reports the rates and severity of PTSD among this sample. The highest rates of PTSD were obtained from the self-report PTSD

TABLE 2: Rates and Severity of Post-Traumatic Stress Disorder (PTSD)

	Diagnosis		*Severity for Those Diagnosed*		
	n	%	M	SD	%
Semi-structured interview[a]					
PTSD status					
Current	9	18	63.9	15.9	47
Lifetime	23	45	64.6	28.5	48
Current PTSD by self-report[b]					
Symptom threshold					
Some of the time	39	77	29.5	10.8	39
Most of the time	18	35	38.5	5.9	51
All of the time	4	8	40.5	7.6	54

a. Clinician Administered PTSD Scale for Children and Adolescents: maximum severity rating = 136.
b. PTSD Checklist: maximum severity rating = 75.

Checklist. Using *DSM-IV* guidelines (i.e., one B symptom, three C symptoms, two D symptoms) and a symptom threshold based on a rating of *most of the time*, 35% ($n = 18$) of the youth met current PTSD diagnostic criteria. Increasing the symptom threshold to a rating of *all of the time* yielded rates of current PTSD of 8% ($n = 4$); decreasing the symptom threshold to *some of the time* resulted in current PTSD rates of 77% ($n = 39$). In contrast, the administration of the semistructured interview (CAPS-CA) by trained clinicians yielded current PTSD rates of 18% ($n = 9$). Clearly, both instruments indicated that PTSD symptoms were prevalent among the sample.

As previously described, the CAPS-CA provides a means to evaluate current and lifetime diagnosis of PTSD. Current diagnosis of PTSD is given if symptoms are present during the past month. Lifetime diagnosis of PTSD is given if a person has ever met criteria for PTSD, either currently or in the past. In the current investigation, nearly one fifth of the participants met criteria for a diagnosis of current PTSD and nearly one half met criteria for lifetime diagnosis of PTSD.

Both the self-report PTSD Checklist and the CAPS-CA interview provide overall ratings of PTSD severity. Although the rates of PTSD among the incarcerated youth in this sample are quite high, the severity of their symptoms is remarkably low. By self-report, out of a maximum severity rating of 75 for current PTSD and at the symptom threshold of *some of the time*, the present sample endorsed a mean severity rating of 29.5 ($SD = 10.8$), which ranks in the 39th percentile. Raising the symptom threshold to *most of the time* and *all of the time* resulted in mean severity ratings of 38.5 ($SD = 5.9$) and 40.5 ($SD = 7.6$), which rank in the 51st and 54th percentile, respectively. By interview, out of a maximum severity rating of 136, the sample endorsed a mean severity rating of 63.9 ($SD = 15.9$) for current PTSD and 64.6 ($SD = 28.5$) for lifetime PTSD. These ratings rank in the 47th and 48th percentiles, respectively. Although the severity ratings for those with PTSD were relatively low on both self-report and interview measures, a *t* test of difference between means indicated that the ratings for those with PTSD were higher than for those without PTSD for both modes of assessment.

DISCUSSION

The current study found that exposure to malevolent environmental factors and traumatic life events is common and rates of PTSD are substantial (18%) in a sample of serious adolescent offenders. The PTSD rate is comparable to the 15% prevalence found in Vietnam combat veterans (Kulka et al., 1990), a well-studied high-risk population. In contrast, an epidemiological study of community-dwelling male adolescents (16 to 22 years of age) found a 1% rate of current PTSD as determined by semistructured interview (Cuffee et al., 1998). These cross-study comparisons highlight PTSD as a potentially important rehabilitative concern among adolescent offenders.

This sample of adolescent offenders showed low-to-moderate overall symptom severity despite the relatively high rate of PTSD diagnoses. Paradoxically, such an absence of pronounced symptoms might undermine staff awareness of PTSD as a problem for delinquent youth. In general, limited symptom severity may relate to the fact that incarceration limits exposure to environmental cues that would otherwise exacerbate PTSD symptoms. It may also be the case that incarcerated adolescents underreport the severity of their symptoms, for example, because they perceive reporting distress as an indication of

personal weakness or because of poor skills related to the monitoring of emotion. More specifically, our sample was drawn from secure facilities that provide mental health services focusing on impulse and affect management. These services may have attenuated PTSD symptoms and/or increased psychological mindedness on the part of the adolescents, making them better able to identify less severe symptoms.

The results of this study in concert with those of others (e.g., Burton et al., 1994; Steiner et al., 1997) suggest that exposure to potentially traumatic events and PTSD are important assessment targets in youth rehabilitative settings. Our assessment methodology was well tolerated by the study participants and they specifically indicated little discomfort with disclosing exposure to adverse life experiences either on surveys or during the interview. Accordingly, similar methods might be applied for clinical purposes.

The youth in the present sample reported similar rates of exposure to violence and maltreatment on self-report and interview-based measures for events other than witnessing homicide and sexual assault outside the family. It is unclear why there would be a methodological discrepancy for these two events, particularly given that the differences are relatively large and in opposite directions. In the absence of clarity on this issue, multimodal assessment would be beneficial to increase opportunities for disclosure of negative life experiences.

In practice, the choice of self-report instruments versus interviews will be influenced by the purpose of the assessment and available professional resources. Because the interview yielded more conservative estimates of PTSD in the current study, it may be useful to employ self-report measures as screening devices and to employ the more time-intensive interviews to identify those most in need of intervention. We found that self-report diagnosis based on a symptom threshold of *some of the time* only missed 1 participant who subsequently received a PTSD diagnosis based on the interview. Self-report diagnoses referenced to symptom thresholds of *most of the time* and *all of the time* were less accurate, resulting in 4 and 7 false negatives, respectively, relative to the interview.

There are three key limitations to the present study. First, although the interviews were conducted by experienced professionals and information was verified in DYS records, diagnostic reliability could only be determined from a low percentage (9.8%) of the interviews. Second, this study involved the most serious offenders in the state of Massachusetts; the degree to which the findings can be generalized to juveniles convicted of lesser crimes or to juvenile nonoffenders is unknown. Third, the study did not attempt to identify predictors of PTSD in this population. Future efforts to do so have the potential to aid both treatment and prevention.

NOTE

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